

## CLAIMS:

1. Medium access device (10) capable of writing information in a logical storage space (LSS) of a storage medium (2) which has a physical storage space (3) comprising two or more layers (L0; L1) of physical storage locations, each storage location (4) having a physical address (PA), the logical storage space (LSS) comprising storage locations within a first one (L0) of said layers and within a subsequent one (L1) of said layers, the storage locations in said logical storage space (LSS) having contiguously numbered logical addresses (LA);
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- the medium access device (10) having an address limit memory (12) containing at least a value for a parameter LAm<sub>ax</sub> indicating the maximum value of the logical addresses (LA) of the storage locations (4) in the said first storage layer (L0);
  - 10 - the medium access device (10) being capable of changing the value in said address limit memory (12).
2. Medium access device (10) according to claim 1, designed to compare the logical address (LA) of the current block with the value of LAm<sub>ax</sub> in its address limit memory (12) [step 152] while writing in said first storage layer (L0) and, if the result of this comparison shows that the upper limit LAm<sub>ax</sub> has been reached for said first storage layer (L0), to make a transition [step 153] to the first available block in the next storage layer (L1).
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3. Medium access device (10) according to claim 1, designed to store a certain value (LAm<sub>ax</sub>) in its address limit memory (12) and to write the same value to a predetermined storage location of said storage medium (2).
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4. Writeable storage medium (2) having a physical storage space (3) comprising two or more layers (L0; L1) of physical storage locations, each storage location (4) having a physical address (PA), the physical storage space (3) comprising a logical storage space (LSS) which contains storage locations within a first one (L0) of said layers and within a subsequent one (L1) of said layers, the storage locations in said logical storage space (LSS) having contiguously numbered logical addresses (LA);
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- the storage medium (2) having at least one predetermined storage location for containing a value for a parameter L<sub>Amax</sub> indicating the maximum value of the logical addresses (LA) of the storage locations (4) in the said first storage layer (L0).

5 5. Medium access device (10) according to claim 1, capable of writing information in the logical storage space (LSS) of a storage medium (2) according to claim 4, the device being designed to read the value for said parameter L<sub>Amax</sub> from said predetermined storage location and to store this value in its address limit memory (12).

10 6. Host device (20) capable of cooperating with a medium access device (10) according to claim 1, the host device (20) being designed to send data to said medium access device (10), the data containing information to be written on said medium (2) and/or containing instructions for said medium access device (10);  
- the host device (20) being designed to send a limit fix command to said  
15 medium access device (10) for instructing said medium access device (10) to store a host-determined value in its address limit memory (12).

7. Host device according to claim 6, designed to send a video signal to said medium access device (10), the host device (20) being capable of evaluating the video signal  
20 to be written so as to determine where cell boundaries (34) in this video signal are to be expected [step 221], to calculate a suitable value for said parameter L<sub>Amax</sub> such that a block (4) for which it holds that LA = L<sub>Amax</sub> corresponds to a cell boundary, and to send a limit fix command to said medium access device (10) for instructing said medium access device (10) to store said calculated value into its address limit memory (12).

25 8. Medium access device (10) according to claim 1, capable of cooperating with a host device according to claim 6, the device being designed to receive a limit fix command from said host device and, in response, to derive a value for L<sub>Amax</sub> from said limit fix command and to store this value in its address limit memory (12).

30 9. Host device according to claim 6, designed to send a Disc Read Command to said medium access device (10) and to receive a Disc Read Response from said medium access device (10), indicating whether or not said parameter L<sub>Amax</sub> is changeable, for example by indicating that said parameter L<sub>Amax</sub> has already been set to a certain host-

determined value;

- the host device (20) being designed to avoid sending the limit fix command in response to receiving a Disc Read Response from said medium access device (10) indicating that said parameter LAmix cannot be changed.

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10. Medium access device (10) according to claim 1, capable of cooperating with a host device according to claim 9, the device being designed to receive a Disc Read Command from said host device and, in response, to read the value for said parameter LAmix from said predetermined storage location, and to send to the host device a Disc Read
- 10 Response containing information from which said parameter LAmix can be derived.

11. Data storage system (1) comprising:

- a writeable storage medium (2) having a physical storage space (3) comprising two or more layers (L0; L1) of physical storage locations, each storage location (4) having a physical address (PA), the physical storage space (3) comprising a logical storage space (LSS) which contains storage locations within a first one (L0) of said layers and within a subsequent one (L1) of said layers, the storage locations in said logical storage space (LSS) having contiguously numbered logical addresses (LA);
- a medium access device (10) in accordance with claim 1; and
- a host device (20) capable of cooperating with said medium access device (10).

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12. Data storage system according to claim 11, comprising a storage medium (2) in accordance with claim 4 and a medium access device (10) in accordance with claim 5.

13. Data storage system according to claim 11, wherein said storage medium is an optical disc, preferably a DVD, more preferably a DVD+R, and wherein said medium access device is a disc drive.

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14. Data storage system according to claim 11, comprising a host device (20) according to claim 6 and a medium access device (10) in accordance with claim 8.

15. Data storage system according to claim 14, wherein said limit fix command (LFC) is sent as a modified RESERVE TRACK (RT) command.

16. Data storage system according to claim 15, wherein the value of bit 0 of byte 1 of the RESERVE TRACK (RT) command indicates that this command is to be interpreted as a limit fix command (LFC), and wherein the bytes 5 to 8 of the RESERVE TRACK (RT) command contain a value indicating LMax.
17. Data storage system according to claim 14, wherein said limit fix command (LFC) is sent as a modified WRITE PARAMETERS PAGE (WPP) command.
18. Data storage system according to claim 17, wherein the value of bit 6 of byte 0 of the WRITE PARAMETERS PAGE (WPP) command indicates that this command is to be interpreted as a limit fix command (LFC), and wherein the bytes 32 to 47 of the WRITE PARAMETERS PAGE (WPP) command contain a value indicating LMax.
19. Data storage system according to claim 14, wherein said limit fix command (LFC) is sent as a modified SEND DVD STRUCTURE (SDS) command.
20. Data storage system according to claim 19, wherein value 20h for byte 7 indicates that the SDS command contains 17 bytes, and that bytes 14-16 contain a value indicating LMax.
21. Data storage system according to claim 11, comprising a host device (20) according to claim 9 and a medium access device (10) according to claim 10.
22. Data storage system according to claim 21, wherein said Disc Read Command is sent as a modified READ DVD STRUCTURE (RDS) command.
23. Data storage system according to claim 22, wherein value 20h for byte 7 indicates that the RDS command is to be taken as a Disc Read Command.
24. Data storage system according to claim 21, wherein said Disc Read Response is sent as modified Read DVD Structure Data.

25. Data storage system according to claim 24, wherein bytes 2-4 of the "DVD Lead-in Structure" field are used to convey information indicating whether or not said parameter LAm<sub>ax</sub> is changeable.